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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/345,193	06/30/1999	KUI ZHANG	112025-0138	9934

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EXAMINER

JAIN, RAJ K

ART UNIT	PAPER NUMBER
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2664

DATE MAILED: 03/10/2004

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/345,193

Applicant(s)

ZHANG ET AL.

Examiner

Raj Jain

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-17 is/are allowed.
- 6) ☒ Claim(s) 1-12, 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie (US Patent 6,185,219 B1) hereinafter Christie, in view of Kompella et al (US Patent 5,892,754) hereinafter Kompella.

Regarding claim 1, Christie discloses a method and apparatus for providing communications control processing (**abstract, col 3 L35-50**) between number of network elements such as switches, server, nodes etc. The communications network may consist of having a plurality of network nodes (**Fig 1, col 4 L57-60**) the network further including a first entity (NE) disposed at one end of the selected path and a second entity (NE) disposed at a second end of the selected path, the method comprising the steps of;

utilizing at least one path state set-up message formulated by the first entity and passed to each network node along the selected path to establish a path state at each network node along the selected path (**col 5 L15-27, col 15 L44-50**) for identifying a traffic flow having predefined parameters, and for forwarding messages matching the predefined parameters of the traffic flow to a next downstream network node along the selected path (**col 6 L11-25**). Christie also discloses time stamping of messages (**col 20 L10**), however, Christie fails to disclose latency determination within a selected path of a computer network via the time stamped message.

Kompella discloses latency determination of messages traveling within a given network by time stamping the packets and measuring the roundtrip delay of a message transmitted, (**col 4 L52-65, col 5 L22-52**) the message being transmitted may be a “test message” for purposes of latency determination (**col 7 L35-50**).

Routes or paths through the network are calculated to satisfy QoS parameters for adequate data transmission amongst transmitting and receiving entities.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the latency calculations of Kompella within Christie to determine the latency of a particular link that may involve the delivery of time sensitive information to the recipient and avoid critical data discard and therefore improve and maintain desired QoS requirements of the link.

Regarding **claim 2**, network layer addressing is common knowledge in the art for routing of data (see US patent US 6097719 A) and therefore one can easily adapt the use of network addressing within any communications applications as appropriate.

claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Christie (US Patent 6,185,219 B1) hereinafter Christie, in view of Kompella et al (US Patent 5,892,754) hereinafter Kompella and further in view of Masters et al (US Patent 5,920,697) hereinafter Masters.

Christie discloses at least one path state setup message formulated at the first entity addressed to the second entity (**col 5 L15-27, col 15 L44-50**), and includes the predefined parameters of the traffic flow;

Kompella discloses latency determination of messages traveling within a given network by time stamping the packets and measuring the roundtrip delay of a message transmitted, (col 4 L52-65, col 5 L22-52) the message being transmitted may be a “test message” for purposes of latency determination (col 7 L35-50).

Both Christie and Kompella fail to disclose source routing option within the network.

Masters discloses source routing and sequential ordering by use of routing tables that have dynamic capabilities, which update information for each node as messages arrive and depart, (col 3 L40-70). Source routing provides efficiency for message delivery by allowing each node to actively decide and update its route table for the best possible path to the next node of delivery. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include Masters source routing technique within Christie to improve message delivery within the network, by allowing each node to update its route table with available path information of the connecting nodes.

Regarding **claims 4 and 6**, Christie discloses establishment and formulation of a path setup via node-to-node connection (col 5 L18-col 6 L25, col 15 L42-55).

Regarding **claim 5**, Kompella discloses latency determination of messages traveling within a given network by time stamping the packets and measuring the roundtrip delay of a message transmitted, (col 4 L52-65, col 5 L22-52) the message being transmitted may be a “test message” for purposes of latency determination (col 7 L35-50).

Regarding **claim 7**, the use of a clock management facility between the entities is inherent in order to determine the latency (as taught by Kompella) between the nodes/entities and therefore must be included to measure the delay between two points.

Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie (US Patent 6,185,219 B1) hereinafter Christie, in view of Masters et al (US Patent 5,920,697) hereinafter Masters. Christie discloses a method and apparatus for providing communications control processing (**abstract, col 3 L35-50**) between number of network elements such as switches, server, nodes etc. The communications network may consist of having a plurality of network nodes (**Fig 1, col 4 L57-60**) the network further including a first entity (NE) disposed at one end of the selected path and a second entity (NE) disposed at a second end of the selected path.

Christie fails disclose source routing option within the network.

Masters discloses source routing and sequential ordering by use of routing tables that have dynamic capabilities, which update information for each node as messages arrive and depart, (**col 3 L40-70**). Source routing provides efficiency for message delivery by allowing each node to actively decide and update its route table for the best possible path to the next node of delivery. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include Masters source routing technique within Christie to improve message delivery within the network, by allowing each node to update its route table with available path information of the connecting nodes.

Regarding **claim 9 and 19**, Masters discloses a computer readable program for executing a list of network nodes along a selected path in a source routing option (**col 3 L40, claims 1 and 31**).

Claims 10-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie (US Patent 6,185,219 B1) hereinafter Christie, in view of Masters et al (US Patent 5,920,697) hereinafter Masters, and further in view of McCloghri et al (US Patent 6,286,052 B1). Christie discloses a method and apparatus for providing communications control processing (**abstract, col 3 L35-50**) between number of network elements such as switches, server, nodes etc.

Masters discloses source routing and sequential ordering by use of routing tables that have dynamic capabilities, which update information for each node as messages arrive and depart, (**col 3 L40-70**).

Both Christie and Masters fail to disclose the setup message having a “sender traffic specifier”.

McCloghri discloses the use of “traffic specifiers” used to provide a “profile” or threshold for a link to avoid congestion and to properly route the packets from one node to the next without it being dropped, (**abstract, col 3 L40-60, col 11 L12-25**). McCloghri further discloses the use of a router alert option (*per claim 11*) that acts as policy enforcers (210) (**see Fig 2**). The use of a traffic specifier and a router alert option reduces packet loss between nodes by providing status of traffic flow (congestion) to the originating node. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include

Art Unit: 2664

McCloghri's traffic flow profile scheme within Christie to reduce packet/data loss within the communications network by providing status of traffic flow (congestion) to the originating node.

Allowable Subject Matter

Claim 13 is allowed.

Response to Arguments

Applicant's arguments with respect to claims 1-12 and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

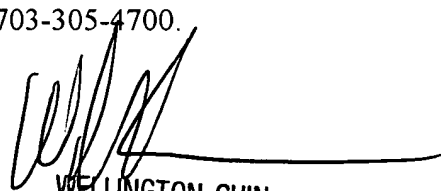
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj Jain whose telephone number is 703-305-5652. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

RJ
February 17, 2004


WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600